Historical Effects of Electronic Interfaces

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Technology, User Experience (UX), Design, Communication, History

- Abstract –

Electronic interfaces are a primary tool for most professional and personal communication currently happening. Electronics, like the human mind, are limited by the understanding of executing will, or commands. This can be characterized as "interface limitations" of digital technology. Identifying this bottleneck in technological development has been critical in historical changes to both hardware and software technology. Recent medical research examines a novel user interface to reduce task load. I hypothesize, interface developments that take cues from nonverbal human communication enhance and sustain the significance of those technologies in society. By examining pivotal moments of historical technology we can identify a bottleneck in development and the interfacing breakthrough that enhanced society's benefit of that technology. Primary sources like the mouse, GUIs, and the Altair 8800 offer insight into overcoming "interface limitations." This implies understanding nonverbal human communication is a significant asset in interface and UX design.

- Introduction -

- Early computers came without software, posturing its cultural ethics to value freedom of information. 'Hackers' programmed "tools to make tools" which could be used by the next user as to not "re-invent the wheel" [V].
- As research into electronic interfaces develops human computer interaction, usability increases significance in society [VI].
- Most modern, personal and business exchanges happen through electronic interfaces [II].

- Observations -

- Computers started at labs in universities, which highly educated scientists and researchers used to perform large work loads [VI].
- By December of 1968, Douglas Engelbart and his team had developed the mouse and window interface as a new model for working with computers. He exercised this technology in a live recording for the public, now known as the "Mother of all Demos." The early mouse was a small wooden box with two rolling tracks, which the computer transferred into a pointer on the screen [I].
- Engelbart's revelations empowered developments at Xerox PARC which released the first GUI driven computer, the Alto. This utilized a 'desktop' workspace immortalizing familiar icons users can control in the workspace with keyboard and a mouse [IV].
- The Altair 8800, released in 1975 as an electronic kit in Popular Electronics, became a staple for affordable computer engineering. This lead to programming 'BASIC' language that brought computers out of labs and put them in common households by improving usability [III].

- Significant Historical Advancements -

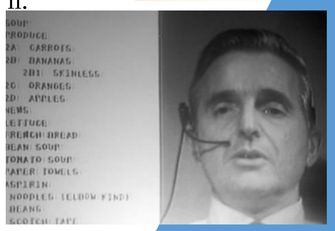
i.

1968

The Mouse

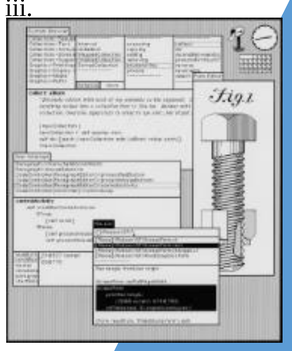
Engelbart

ii.



Lab Research

iii.



1972

Xerox Alto (non-commercial)

Graphic User Interface (GUI)

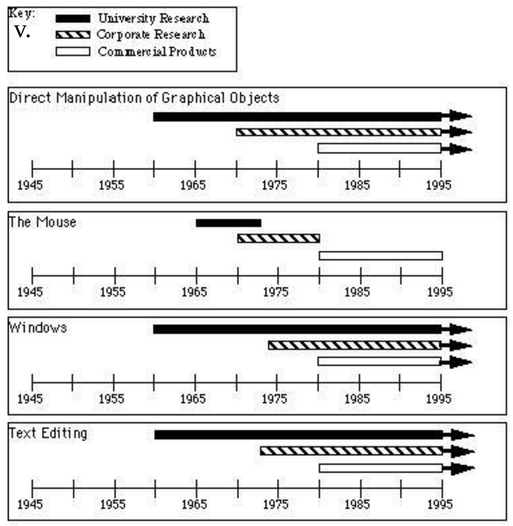
iv.

1975

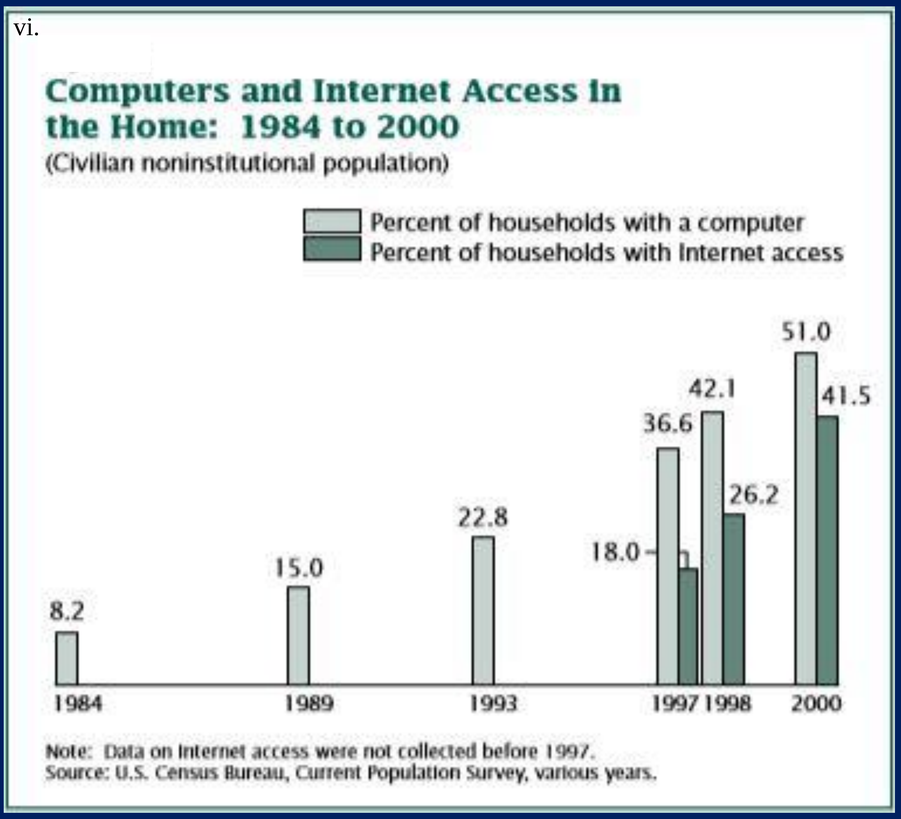
Altair 8800 (commercial)

1st Personal Computer

v.



vi.



- Conclusions & Implications –

- Easily handled interfaces were demanded more than sophisticated interfaces, due to their complexity to master.
- Understanding nonverbal human communication has a direct impact on designing effective interfaces.

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